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Big Day in Missouri

≡ SOIL CONSERVATION ≡

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WELLINGTON BRINK

Editor

Art Work by

W. HOWARD MARTIN

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FRONT COVER.—Soil Security Day centered at the Hope Brothers 380-acre farm near Pocahontas in Cape Girardeau County, Mo., last fall. The "day" dramatized the work of the Cape County Soil District, with which the farm owners cooperate.

Nearly 25,000 conservation-curious Missourians came to be "shown." They eased out of their parking places at sunset bug-eyed as a result of having watched what they were convinced is literally *the greatest show on earth*. Many of them were already familiar with the miracle of soil conservation on a gradual and piecemeal scale, one or two practices at a time, on their own farms or those of neighbors. But most of them were unprepared for the 200-piece battery of machinery, the great volunteer army of skilled workers, the vast range of operations. Technical planning and other assistance were supplied by the Soil Conservation Service.

Accomplishments included the construction of terraces, diversion terraces, terrace outlets, subsoiling, seedbed preparation

(Continued on p. 180)



Smart farmer. He advertises.

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Six-year-old stand of tall wheatgrass on H. M. Fishwood farm east of Humboldt, Nebr. Here the grass is used as part of a mixture in the lower end of a waterway.

By LAIRD G. WOLFE

FROM the seashores of Turkey to the alkali flats of the Platte River is a long migration, but one foreigner has made it and with no problems of naturalization.

The foreigner, tall-growing tall wheatgrass (*Agropyron elongatum*), is fast becoming a useful citizen by furnishing pasture and hay on land previously removed from a production status because of irrigation seepage, high water table, or wet alkaline conditions.

Results in the Platte River Valley show this grass to be making good with a one-two punch. It has thrived in the nursery on a site of a type where intermediate wheatgrass could not survive.

NOTE.—The author is observational nurseryman, Soil Conservation Service, Waterloo, Nebr.

Tall Wheatgrass

COMES TO THE

Platte Valley

It has produced a profit from seeped and alkali land that was a liability, crowding out weeds at the same time. It has furnished a longer grazing season than other cool-season grasses, and it is liked by livestock.

Plant explorers found tall wheatgrass during the early 1930's growing in salt marshes in northern Turkey not far from the shores of the Black Sea. Their notes show that a seed collection was made "along the road to Bursa on low flat land." This would be about the same latitude that divides Kansas and Nebraska.

Tall wheatgrass is a somewhat coarse, erect perennial with a bunch-type growth. An abundance of long basal and stem leaves make it a high forage producer comparing favorably with the rest of the wheatgrasses in this respect. As the name implies, the mature plant is tall, often reaching a robust 5 feet and more under irrigation in the West, or under normal rainfall conditions in eastern Nebraska. The seed head is an



Enlarged portraits of seeds, left to right: tall wheatgrass, crested wheatgrass, reed canary grass.

elongated spike similar to, but longer than, heads of intermediate or western wheatgrass.

Like other cool season grasses, tall wheatgrass does most of its growing in the fall and spring. One of its most desirable characteristics, however, is the lateness of maturity. It is still green a month after crested wheatgrass, intermediate wheatgrass, or brome have become dormant during midsummer temperatures. Seed is ready to harvest in August and even at this late date foliage is green. Winter growth of tall wheatgrass in Nebraska exceeds that of smooth brome or other wheatgrasses.

Fall and spring foliage is soft and luxuriant, resembling foliage of intermediate wheatgrass. But as the plant matures, a coarseness develops so that by late summer tall wheatgrass is tough and harsh. In spite of this condition, trials in Idaho (cooperative studies of the University of Idaho Agricultural Experiment Station and the Soil Conservation Service Nursery Division) showed tall wheatgrass in hay stage to be 66 percent palatable, or about equal to either alta fescue, Canada wildrye, reed canary grass, or wheat hay.

Perhaps the outstanding advantage of tall wheatgrass, particularly in the Northern Great Plains, is its tolerance of wet alkaline conditions. This grass has produced well in plantings in the Platte Valley from eastern Nebraska to Torrington, Wyo., on land that had been considered worthless for cash crops. At the SCS Nursery at North Platte, Nebr., a row of tall wheatgrass planted in 1940 has produced seed every year since then, while a row of intermediate wheatgrass planted at the same time and in soil with the same high alkaline conditions died out by the second year. Soil samples taken along this 8-year-old row of grass show a very high alkaline content (pH of 9.6 in the top 8 inches, 10.1 in the 8- to 16-inch depth, and 9.9 in the 16- to 24-inch depth).

Although not too much is known about its resistance to cold and drought, tall wheatgrass seems to stand up well under both conditions. Reports from Idaho and North Dakota indicate that its forage and seed production are good but that it does not come into full production as fast as some other grasses that have been tried. These reports come from areas where annual precipitation averages 9 and 16 inches, respectively.

Few problems are encountered in planting tall wheatgrass. The large seed flows readily through almost any type of grain drill. Early fall plant-

ings on a well-packed seedbed have given best results. And in medium- to light-textured soil, seed drilled at from one-half to three-fourths inches in depth has produced the best stands. Seeding rates have varied from 6 to 10 pounds per acre when drilled in solid stands and about half that when planted in rows to be cultivated for seed production.

Fortunately, this grass is a good seeder. Tall wheatgrass planted in 40-inch rows at the SCS Waterloo Nursery in eastern Nebraska in September 1946 yielded almost 400 pounds of clean seed to the acre in August 1947. This yield was made without the use of fertilizer or irrigation. The same fields yielded over 200 pounds of clean seed to the acre in 1948 in spite of a dry spring. These acre averages are not from small plot trials but from the production of at least 15 acres.

Either a binder or a combine may be used to harvest the seed. The seed ripens evenly and does not shatter readily, but best quality seed has resulted from binding and threshing. This is particularly true when growth is heavy, because then the tough, green leaves tend to "slug" a combine cylinder and a quantity of moisture-laden bits of leaves and stems are elevated along with the seed.

The excellent seeding habits of tall wheatgrass—both high production and ease of handling—are helping to meet the demand for seed. In 1936 SCS nurseries in the Great Plains had 4 ounces of seed. The first few years were spent increasing this amount and testing the grass under different conditions. The 4 ounces grew, and from 1943 to the present time almost 15,000 pounds of seed have been distributed to soil conservation district cooperators by the nursery at Waterloo.

The bulk of this seed went to growers in Kansas, Nebraska, and Wyoming, where it was planted for both trial and further increase. Many of the plantings were made in poor locations—problem areas which the cooperator had given up as past reclaiming. Numerous farmers have found that tall wheatgrass put these same problem areas on the black side of the ledger for the first time when they sold seed the grass produced. Seed prices have been high, averaging from 75 cents to \$1 per pound.

One of these men is Rudolph Rutar, near Torrington, Wyo., cooperating with the North Platte Valley Soil Conservation District. Rutar has 4 acres of wet alkali seep below an irrigation ditch

which he planted to tall wheatgrass in December 1946, using a beet drill and planting rows 20 inches apart.

"The grass did not sprout until the following spring," Rutar remarks, "and the weeds were so bad the first year that the grass could not be seen without parting the weeds over the row. Weeds were mowed once the first summer and cultivated twice during dry weather. Those were the only times you could get in that field. The grass grew about 6 inches high the first year.

"The second year the grass started before the weeds and is rapidly crowding them out. The stand appears to be thickening up. Between 300 and 400 pounds of seed were harvested off the field.

"Cattle preferred to graze the regrowth after the seed harvest to grazing alfalfa. They have also eaten all the straw from threshing. We have never cut any for hay, but see no reason why it would not make good hay. We do know it is a very good spring and fall pasture, at least.

"We plan to seed at least 5 more acres for pasture," Rutar concluded. "We think it has great possibilities not only for pasture but to control weeds in wet alkali areas where very little else grows. The area we seeded to tall wheatgrass had never produced a successful cash crop since we owned the farm. I believe a grass has finally been found that will produce a successful crop under wet alkali conditions."

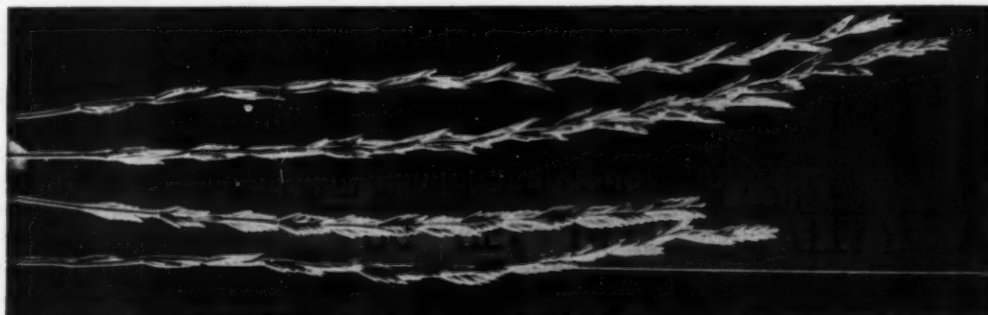
Soil conditions in this field were inspected by Harold Bindschadler of Laramie, Wyo., State soil scientist for the Soil Conservation Service. He reported that "the water table apparently fluctuates from season to season. The profile was very moist throughout the upper 3 feet and free water was found at about 4 feet. It is assumed

the ground water invades the root zone during late July and August and recedes early in September. The soil developed from lower Brule or upper Chadron. The lime content is very high and the concentration of soluble salts has caused this land to be useless for the production of domestic crops. Kochia and poverty weed were the only plants produced until the tall wheatgrass was introduced."

At Scottsbluff, Nebr., where irrigation farming has been practiced over a relatively long period of time, the problems of alkali and high water table present themselves on farm after farm. The supervisors of the First Commissioner Soil Conservation District are aware of the value of tall wheatgrass and have leased land and made plans to plant this grass in rows for seed needs of their cooperators.

Farther east in the Platte Valley at Kearney, Nebr., Horace J. Cary, cooperating with the Buffalo-Ravenna Soil Conservation District, planted 8 acres of tall wheatgrass in 1945. The area planted was afflicted by both high water and a saline condition. In 1947 Cary harvested 2,000 pounds of seed from his planting. He stated that prior to the seeding of tall wheatgrass on this land there was practically no crop production of any kind. He is encouraging farmers having similar soil and water conditions to consider the grass for hay or pasture.

Tall wheatgrass is not a cure-all. It won't replace the immense acreages of some of the established grasses. But when you need a special-use grass for your problem areas, give a thought to the long grazing season, the high forage and seed production, and the alkali or wet, heavy soil tolerance of tall wheatgrass.



Eight- to 12-inch spikes, showing length of seed heads when wheatgrass is grown in rows for seed production.

DISTRICT PROFILE

CHAMNESS of California

Albert N. Chamness for more than 30 years has been growing citrus fruits and avocados near San Marcos, in southern California.

Chamness appears to have discovered a west coast fountain of youth in his little valley in San Diego County. He, too, is sun-kissed and rugged. He lends to the problems of land and water a high enthusiasm, a well-stocked technical knowledge, and a fine sense of humor.

Chairman of the soil conservation district in which he lives, Chamness also is vice president of the California State Association of Soil Conservation Districts and represents the Pacific Southwest on the board of directors of the National Association of Soil Conservation Districts.

Mr. and Mrs. Chamness celebrated their golden wedding anniversary in 1945. They operate a 126-acre ranch in the San Marcos-Richland-Twin Oaks Soil Conservation District. They have 70 acres of citrus which yield an average of 20,000 boxes a year. At the present time Chamness is developing 40 acres for avocados, and you'll often find him on a tractor or irrigating.

Chamness has held many civic and public offices, but he has always been close to the land. He and his wife started farming near Richmond, Ind., in 1902 when they purchased 180 acres of creek bottom land. Soon they found that 15 acres of their best land flooded every spring.

He and his neighbors, whose lands were likewise flooding, formed a drainage district and dredged the channel of the stream as a defense measure. "The first year I raised enough corn on my reclaimed land to pay the cost of dredging," he recalls. "That was my first experience with conservation."

He reflects now how much easier it would have been for him and his neighbors to have gotten the job done if soil conservation districts had been in existence at the turn of the century.

The Chamnesses lived in Indiana until 1917, when they moved to Whittier in Los Angeles County, Calif. A native Hoosier, Chamness had attended Danville Normal College, Danville, Ind.,

and the Ball Business College, Muncie, Ind. While still in Indiana, he had served as a township trustee, a member of his county's board of education, and two terms as treasurer of Wayne County.

He purchased a 30-acre orchard, 25 acres of walnuts and 5 acres of citrus at Whittier and began anew in agriculture and public service. In this California community he served as a bank director, director and president of the North Whittier Heights Citrus Association, and manager of the Whittier Extension Mutual Water Co., which supplied water for the citrus belt. He also was city councilman and mayor of Whittier. But these activities didn't occupy all his time.

Shortly after he moved to Whittier, Chamness was elected a trustee of Whittier College, an office he held for a quarter of a century. During that time he also served as secretary and as president of the college's board of trustees and for 10 years as the school's treasurer and comptroller.

While mayor of Whittier, he represented the city in its efforts to preserve the city's water rights and took a lead in retaining water rights for land-owners in the valley. He also found time to serve as director of the sanitation district for East Los Angeles County for 4 years, and in 1918 was food administrator of that portion of the county.

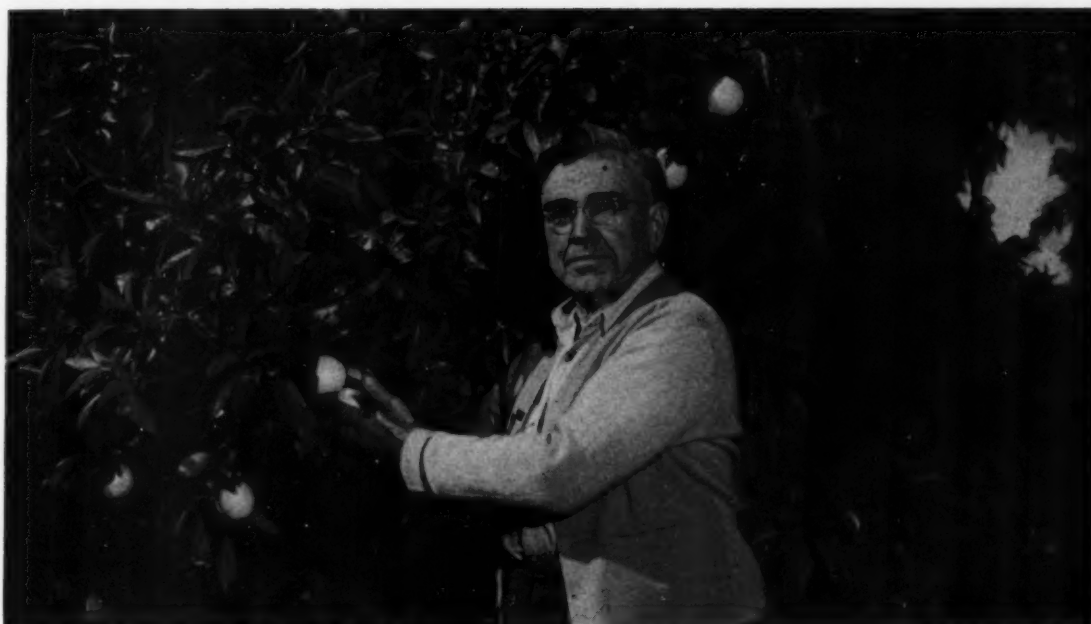
In 1926, before Lake Henshaw Dam was built and water brought in, much of San Diego County's potential farm land was undeveloped. But Chamness's attention was drawn to its rich agricultural possibilities.

In 1931 he bought 86 acres in Twin Oaks Valley, near San Marcos. On this tract were 40 acres of citrus. He and Mrs. Chamness moved to the ranch in 1935 and there faced another water problem.

Flood waters swept through the orchard and homestead, depositing gravel and stones. Nearly 4,000 trees were in the path, and he recalls that many young trees were damaged or killed. On one occasion he spent more than \$3,000 to remove debris.

Chamness called for help from the nearby Vista CCC camp in 1938. Soil Conservation Service engineers, in cooperation with the county, drew up plans for drainage of the valley, but the camp closed just as the project was getting under way.

The committee of 30 farmers that had served in an advisory capacity with the CCC camp took the lead in forming the San Marcos-Richland-



Sun-kissed Californian, big man in big State: Albert N. Chamness.

Twin Oaks Soil Conservation District. This district, the third in California, was organized March 17, 1941. In its organization efforts, the committee had the support of the county board of supervisors and the local Grange. Chamness was made president of the district directors, and he has served in that capacity ever since. The San Marcos-Richland-Twin Oaks District was instrumental in the formation of the San Diego County Association of Soil Conservation Districts and in the organization of other soil conservation districts in the county, which now number 11.

The project started under the CCC camp program was taken over by the district, and in cooperation with the county it was completed to the satisfaction of the growers.

"The work done under guidance of the district board of directors who used the technical help of the Soil Conservation Service has been of value to everyone in the valley," Chamness says. "Not only has it prevented flood damage to private land but also it has protected county roads and reduced their maintenance costs.

"Trees previously damaged by flood and high water have since been removed and replanted. Before the new drainage ditch was built and I put on my soil conservation program, there were some years in which my orchard could not be

tended until June or July because of wet conditions. Now I can work my orchard the year around."

Mrs. Chamness shares her husband's enthusiasm for soil and water conservation. Her hobbies are antique furniture and gardening. Their ranch home is in a natural setting of sycamore trees to which she has added exotic and unusual plants to produce a beautiful landscape. The Chamness yard has won prizes in a number of garden contests.

Mr. and Mrs. Chamness have two children, a daughter, Helen Bussell, and a son, Oliver Vaughan. Their son has spent 16 years in South Korea. A chip off the old block, he has supervised an agricultural program in 20 Korean communities.

Chamness is a past president of the County Development Federation, a past director of the San Diego County Chamber of Commerce, a past president of the San Marcos Chamber of Commerce, a director and past president of the county Farm Bureau, a past master of the San Marcos Grange and a member of the State Grange. He also is on the board of Palomar Junior College, which has a large agricultural department.

—F. GLENNON LOYD.

Contour strips on three farms in the Stone Valley area, Lower Mahanoy Township, Dalmatia, Pa.: those of William Klock, Forest Long, and Wesley Snyder.



≡ STRIP CROPPING ≡

Made Easy

By JOHN P. JONES and JAMES M. WISE

IN the Northumberland Soil Conservation District, Sunbury, Pa., contour strip cropping is regarded by technicians as easy to install and by farmers as indispensable for erosion control. While such items as contour plowing and cultivation with short rows in the middle were once regarded as obstacles, today they are accepted as essential to the success of strip cropping.

Here are a few reasons for the success of strip cropping in the Northumberland District.

RUNNING BOUNDARY LINES

Boundary lines for contour strips are laid out nearly as fast as a man walks. One man with abney level and stakes takes the lead and a second man, generally the farmer or a person not so ex-

perienced with contour lines, follows along, from stake to stake, and serves as a stadia rod or sighting point. After setting the first stake, additional stakes are placed in the contour line by sighting back on the last stake. Experience has made it possible for a man to walk a contour line very closely, and it is usually necessary to move up or down the slope only a step or two to place a stake on the level or contour. By this method the cumbersome use of a tape measure to lay out parallel-sided strips is eliminated.

After the first line is run, a second line is run back across the field and so on until the whole field is completed. Two men lay out and plow in contour strip boundaries on 60 to 70 acres with about as much ease as 25 to 30 acres of parallel-sided strips.

Contour lines for strip boundaries are run through standing corn and other crops. This is nearly impossible with parallel-sided strips because a tape cannot be dragged over a growing

NOTE.—Dr. Jones is chief of the regional agronomy division, Soil Conservation Service, Upper Darby, Pa., and Mr. Wise is district conservationist, Sunbury, Pa.

crop to establish the lines. With the contour method it is, therefore, possible to spread the work over a longer period each year and utilize technical time more efficiently.

WIDTH OF STRIP

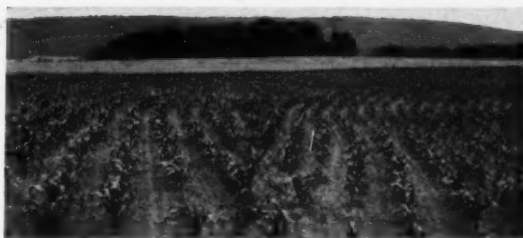
In the Northumberland District the width of strip is largely regulated by the contour boundaries. By following contour lines, strips generally narrow to 70 to 90 feet on the steep slopes and widen to 125 feet on the more gentle slopes. To keep strips from being too narrow at any point, judgment must be used in starting a contour line. Experience shows that the strips must be at least 60 feet wide or the farmer may get into trouble turning his equipment.

SHORT ROWS

At first local farmers seemed to think that strip cropping was multiplying the number of short rows to which they had been accustomed. To avoid short rows, a few even went so far as to insist on parallel-sided strips. In these cases they found correction strips a worse evil than the short rows, and that erosion was not controlled. When they changed to contour strips with both edges on the contour, they found to their surprise that the number of short rows was scarcely any more than they had become accustomed to in the old square field system of farming. They also found that strips with both edges on the contour did a better job of erosion control.

Clark Hower, after changing from parallel-sided strips to strips with both edges on the contour said, "Now I have the erosion stopped. Short rows are no problem in plowing, cultivating, or harvesting."

Short rows in the middle are an obstacle only in the case of potatoes where the ridge row method of cultivation is used. Ridge rows make turning of spraying equipment difficult. Where parallel-sided strips are used, highly ridged rows prevent water from breaking through and causing gullies. Management of the correction areas is often a problem. Sometimes they can be managed by planting potatoes with short rows on the side, but often it is necessary to leave those areas in hay. Some farmers have used strips with both edges on the contour by planting the potatoes in the long rows on each side of the strip and planting the point row area in the middle to corn or truck crops.



Point rows in middle of contour strip at time of last cultivation. Note that very little corn has been run over during cultivation. Farm owned by Raymond Shaffer, Dalmatia, Pa.

Diversion terraces, sod waterways, and rotations are used to supplement strip cropping. Diversion terraces are confined to steeper cultivated fields. Rotations are of the common dairy type with more hay and pasture on steep slopes and more grain on gentle slope, where needed. Natural waterways are carefully maintained in sod.

The art of plowing, planting, cultivating, and harvesting contour strips has been worked out by the Northumberland County farmers with advice of the farm planner. Starting on the strip boundaries and plowing to the center is alternated with starting in the middle with the point rows as a guide and plowing toward the outside. By this plan the turning of the land toward the outside one time and toward the center another, prevents any significant movement of soil or any abnormal unevenness of the surface.

Planting, cultivating, and harvesting are always started on the outside and contoured toward the center. In all these operations the short rows create somewhat of a problem, but farmers after a little experience can handle them, even when using such large equipment as the combine and two-row corn picker. In seeding operations, it is necessary to do a little overlapping at the point to avoid skipping some of the area enclosed. In cultivating corn with a tractor, turning is done at the end of the point rows in the middle of the field almost as easily as at the ends, with little or no damage to the crop. The tractor operator has no difficulty learning how to do this. With short rows in the middle the farmer can harvest corn with a corn picker more easily than when they are on the side.

Contour strip cropping has been reduced to simple terms. As a result, it is making headway on a large number of farms.

Los Angeles COLLEGE UNIQUE IN NATION

By HERB BODDY

THE Clarence W. Pierce school of agriculture heads a back-to-the-land movement in Los Angeles. Its students learn by doing. Nearby are the citrus fruit groves and dairy ranches of the rich San Fernando Valley.

Students of the Winnerka Avenue junior college follow the soil conservation doctrine in handling range, pastures, and croplands.

The school embodies a fresh idea worked out by the Los Angeles Board of Education to train GI's and other young men and women in farming. Here on the campus itself they try their hand at making the soil pay. After only 1 year, some Pierce students are ready to stake their future in agriculture.

When the Pierce School opened its doors a year ago more than three-fourths of the students were veterans. Dr. E. B. Angier, who directs the school's program, said that attendance nearly doubled when class work resumed this fall. Expansion of teaching quarters and dormitories will let registration run to 350 from now on.

One of the few agricultural junior colleges in the country to be operated by a large city school system, Pierce is blazing a new trail. It is unique because there is a well-organized plan to guide its faculty and students in the care and use of the soils that make up the school's acreage. Pierce is believed to be the first school of its type in the Nation to draft a blueprint showing acre-by-acre use of its land.

Like many Los Angeles County farmers and ranchers who have joined hands to combat soil and water losses and improve their crop yields, the Pierce school is a cooperator with the San Fernando Soil Conservation District. And like thousands of landowners the country over, the

college patterns its operations on a farm conservation plan.

Putting the college's agricultural work strictly on a conservation basis is recognition by the city school board of the importance of soil erosion as our top land problem.

Situated at the hub of the great Los Angeles County agricultural empire, Pierce junior college fills a long-time need. Few States can offer more opportunities to farm-minded youth. Today Los Angeles County is out in front as one of the richest agricultural counties in the country. It has 12,000 ranches which produce more than 100 million dollars in farm products yearly. One-fourth of the Nation's entire fruit and vegetable crop comes from here.

Pierce's farm faculty uses down-to-earth methods. Their teachings hinge on the doctrine of good land use and soil care. They find that soil conservation is the easiest and safest way to get complete use of the school's lands.

Technicians of the San Fernando Valley staff of the Soil Conservation Service, along with other agricultural agencies, are cooperating closely with the faculty. The Service worked out the college farm conservation plan with the city school board. In it the Service included a soil analysis, recommended soil- and water-saving measures, and outlined the field and crop layout for each acre. Each piece of land is marked for use up to its peak safe producing power.

Angier says the college already has undergone impressive changes in appearance. But he notes it has a long way to go on its 12-year program.



Five students talk soil with Neil Lynch, an instructor, left, and E. J. Kotlar, SCS technician, kneeling.



In a little more than a year students have planted an 18-acre orchard, half citrus and half deciduous fruits. With the help of SCS technicians, the school has revamped its irrigating ditches to get better use of its water supply. Some 17,000 feet of piping for sprinkler and furrow irrigation have been installed. This raises the total of irrigated acres to 75.

Several irrigated pasture sites will be seeded with 3,000 pounds of pasture mixtures. Ten tons of commercial fertilizer is to be applied.

Other fields are staked out for hay and cereal crops. Higher, sloping lands will be used for annual winter range and dry-land pasture for the college's beef cattle. Lighter soils are being farmed to truck crops.

Students like the grass-roots tactics which teachers use in classroom instruction. But the daily down-to-earth training they are getting in farm chores, planting and care of crops, animal

CAMPUS SCENES.

Top, left.—Pierce College lads divide their time between classroom and field. Indoors they study such subjects as farm machinery, dairy production, nursery practice, and animal husbandry.

Top, right.—E. J. Kotlar shows two former GT's how to lay out a contoured field.

Bottom, left.—Student ditches contoured orchard for irrigation.

Bottom, right.—Pierce "farmers" learn to care for both dairy and beef animals. One of their favorites is a \$5,000 sire given the school by Sears Roebuck Foundation.

husbandry, and all-around farm work has the strongest appeal.

Each college entrant may major in the phase of agriculture that interests him most. The college grants associated science degrees for successful completion of a 2-year course in any major subject. The lists of majors include dairy production and management, poultry production, field-crop production, and ornamental horticulture.

New subjects this year are horticulture, farm machinery repair and operation, landscape gardening, soil and water conservation and land management.

The stock, such as poultry, hogs, rabbits, horses, dairy and beef cattle, lends a homey, farm-like touch to the Canoga Park campus. The college owns a number of top-grade animals, including a \$5,000 Hereford sire given the school by the Sears Roebuck Foundation.

The registrar's rolls show that students come from the far corners of Los Angeles County and from many far away points. Some Pierce students are farmers' sons. Others are city bred. A number, mostly veterans, run farms themselves and are taking refresher courses. The college provides ways by which some students can work their way through a farm course.

Several older students are laying plans to enter various phases of the agricultural industry when school ends next June. But a large portion of graduates are expected to continue their training in senior agricultural colleges.

Summing up, Angier says, "The time of farming by trial and error is past. Agriculture is a high-speed, streamlined business today. Our new farmers have to get in step with the trend to make a go of it.

"With 10 percent of employed persons in California working in agricultural industries, it is important that we begin to train our future farmers, here in Los Angeles. We can now offer a future to the youth of our community in farming fields.

"We believe we are doing the right thing in running our school along soil conservation lines. The earlier we plant the good seeds of conservation farming in the hearts of our youth, the better for the country."

FRONT COVER (from p. 170)

plus the use of limestone and commercial fertilizers for terrace outlets, pastures and meadows, contour plowing, a contour plowing contest, stock pond construction, pasture renovation, creek channel straightening by use of draglines, dusting by use of a helicopter, fence removal and construction. Other practices included closing gullies with bulldozers, construction of concrete soil-saving dams, woodland work such as marking trees for harvest, taking out weed trees and merchantable timber and the replanting of seedling stock. Land was cleared by a bulldozer, merchantable timber worked up into logs with motor-operated saws, and, finally, lumber turned out by a portable sawmill.

Wildlife received attention. Some 2½ miles of multi-flora rose fence were planted.

NEW CONCEPT OF OLD FARM

By ALEXANDER NUNN

EDITOR'S NOTE.—Last summer Managing Editor Alexander Nunn of *Progressive Farmer* and Southeastern Regional Conservator T. S. Buie were attending a church meeting. After one of the sessions, they ate dinner together and the conversation turned to Nunn's farming operations near Loachapoka, Ala. At Buie's request, Nunn repeated in the following article what he said about "our home farm." As managing editor of a widely read farm magazine, Nunn is a leading authority on Southern agriculture.

THROUGHOUT his life, my father was a great believer in protecting his land with good terraces. The old family estate he took over in 1916 was gullied, galled, and grown up in bushes, plum thickets, and young sweetgum trees. In the 30 years that followed, I believe he did a better job of holding the soil on the land than any other farmer in Lee County. The terraces, which he built in the early years of that period and gradually improved, had become so much a part of most of the fields that there was no longer any washing of any kind. A few outlets here and there, never fully corrected, caused some small damage during severe rainstorms.

The other most striking thing to me since my father's death 18 months ago and since my brother and I have taken over the old home farm has been the realization that the farm was never organized to make maximum use of every acre. As a matter of fact, I think I fully appreciated all during my father's lifetime the work he did in holding the soil; on the other hand, I never fully realized how much more he might have made from the farm, his enthusiasm for soil conservation being what it was, if he had had it better organized. Perhaps most of us, who think we are keeping abreast of the times, haven't ourselves begun to grasp the need for and the possibilities in planned and fully working farms until these last 5 or 10 years. I doubt whether 10 years ago I would have visualized how we might put every acre to work on the home farm and on another part of the family estate, adjoining, which I myself own.

I think perhaps I ought to give credit where credit is due and say that you folks in the Soil

Conservation Service have done more to help me visualize the possibilities than any other one group.

In the case of the home farm, I think it is not reflecting on my father to say that he always thought largely, insofar as crops were concerned, in plantings from year to year. There are many sound explanations for this, but in an old plantation system accustomed to annual sharecropping, it was almost too much to expect that even our better farmers would have thought far beyond an annual basis. It would have been rather remarkable if the system had not directly affected the thinking of all of those who were a part of it.

My father never placed his principal dependence on the cotton crop, but he was never able to make up his mind to cut loose from it until the shortage of labor became so severe during World War II. He always produced all of the things that the family needed for a good living, sold some fruit, considerable in the way of truck crops, and a good bit of livestock.

In undertaking to shift the farm over to a vegetable, hog, and potentially a dairy program, we are finding that we not only must change cropping systems on most of the fields, but that we have got to rearrange fences and pastures and try to put to work many acres (in a fair to good state of fertility) that have been producing almost nothing. Under present price levels, my brother and I believe that we can see the possibilities of \$8,000 to \$10,000 gross from the 117 acres. Papa would have thought us foolish if we had ever even suggested that the farm could produce that much every year.

We have realized that the change-over is an undertaking of 3 to 5 years and that furthermore we will have to improve and expand and change gradually along with the carrying on of the regular farm work.

When we actually put to work in their proper places all the new methods, the new crops, and the new equipment that are now available to us, the South literally is going to blossom like the rose.

MAINE KEEPS INFORMED.—The first issue of the yet-unnamed quarterly "Letter" to the membership has been put out by the District Supervisors Association of the State of Maine. It is full of "family" notes and helpful suggestions. "Now is the time"—reads one paragraph—"for supervisors to subscribe to SOIL CONSERVATION Magazine for themselves, school libraries, vocational agricultural teachers, and others."

WAKING UP SLEEPY ACRES

By FRED M. SHAW

SPURRED on by the demands of a rapidly expanding dairy and beef program, farmers in the Kaufman-Van Zandt Soil Conservation District in east Texas have started turning thousands of idle acres into improved pastures. The fact that an estimated 90 percent of the pasture land in the district is growing nothing but needlegrass gives some idea of the magnitude of the task. The entire area, especially the gray-land section, is badly depleted and many pastures have only a small carrying capacity for a short time in the spring.

Among the farmers who have led the way in showing how this impoverished soil could be made to support Bermuda grass and clovers—especially black medic and lespedeza, with Dallis grass in the moist bottom sections—is Lon Akin of Poetry Community, about 5 miles north of Terrell. For his contribution to the cause of soil improvement through planting his farm to hairy vetch, Akin was named outstanding farmer in the district for the Fort Worth Press 1947 Save the Soil and Save Texas Program.

"I just decided that if vetch was good for the cultivated land, it was bound to be good for pasture," Akin explained. "The land, like most of it in the district, was all poor. Even the bottom land was low in organic material where the already-depleted uplands have washed down on it. And the cultivated land turned into pasture wasn't any good until it had been improved. It wouldn't carry a cow to 15 acres."

Akin changed over from cotton and corn and began planting vetch on his Bermuda grass pasture about 4 or 5 years ago, using the two-row equipment on his tractor. One year he actually planted 90 acres in this manner. He drilled superphosphate with it and added 0-14-7 mixed fertilizer, a practice he has continued ever since.

"Before I planted vetch," he states, "that Bermuda grass was so tough the cows wouldn't eat it. It's remarkable the difference that just 1 year

NOTE.—The author is conservationist with the Texas Power & Light Co., Dallas, Tex.

of vetch makes." He has gone over all his pastures with this legume, about 350 acres of which have a Bermuda grass base.

Although he plants approximately 45 acres of corn and 10 acres of cotton on land which is properly terraced and tied down, Akin's program is essentially one of seed and livestock. From one plot where the land hadn't been grazed, he got more than 300 pounds of vetch seed on what he maintains was the poorest land in the county. That was the time he harvested late and some of the seed had scattered. He got 350 pounds per acre from some vetch that had volunteered. On the average he gets a yield of 250 to 350 pounds per acre, and last year harvested a total of approximately 25,000 pounds which he sold to farmers in the district. "It pays off better than hiring labor for row crops," he says.

Akin believes he gets better production out of oats as a nurse crop; however, last winter the rye used as support stood through the cold weather whereas some of the other grains were killed out

completely. The rye also increased the yield of vetch by holding it up off the ground, thus enabling the sunlight to mature a higher percentage of seed. This year he plans to plant about 80 acres to abruzzi rye.

"If you don't get a seed crop," he points out, "vetch will still pay in better grazing and soil improvement." In addition to hairy vetch, he has planted 1,000 pounds of kobe lespedeza and 800 pounds of common lespedeza in improving Bermuda grass pasture and is trying a little lovegrass for his permanent pasture. He believes Bermuda plus lespedeza plus vetch is the only thing for an upland pasture combination. The vetch comes early, the lespedeza later, and the Bermuda in between.

Starting his pasture-improvement program with about 100 acres, Akin used part of his profits to add to his holding each year until he now has approximately 450 acres in vetch. This year he built a stone house, complete with cellar and garage, in lieu of procuring additional acreage.



Lon Akin (left) was "outstanding farmer" in Kaufman-Van Zandt Soil Conservation District in 1947 Fort Worth Press 1947 Save-the-Soil Program. Here, with D. C. Lerner of SCS, he looks over his hairy vetch and abruzzi rye in his pasture.



Cattle graze continually on waterway site on Liston farm north of Terrell: vetch, white Dutch, and bur clovers, Bermuda and Dallis grasses. Inspecting: Technician D. C. Lerner, Cooperators J. C. Wells and Arthur Liston.

When he began his pasture program, 15 acres were required to carry one cow. It now takes an average of 6 or 7, depending on the length of time he has owned the land and had it under improvement. He feels that on this improved land he has reached the half-way mark in his goal to carry 1 cow to not more than 2 acres. During the past winter, he ran 60 beef cows and 20 calves on 1 field of approximately 40 acres of vetch and rye. Had it been a normal winter he feels that the field would have carried these cattle without any additional feed.

"There is definite danger of overgrazing," Akin warns. "People who overgraze haven't any pasture or any good producing cows either. Overgrazing will start erosion because the land will 'ditch up' where the cows trail as quickly as it will between rows of cultivated land."

His terracing program has been completed and all terraces empty on well-sodded pastures developed along the natural drains in his fields. These areas, which were formerly considered problem areas, have turned out to be the most profitable ones on the farm.

Each year Akin sees his work pay off in cash income, lush pastures, and fat, healthy cattle.

HOLT TO WORLD CONFERENCE

Ernest G. Holt, research specialist of the Soil Conservation Service, is in New Zealand during the period of February 2 to 22, attending the Seventh Pacific Science Congress. The Congress is meeting in Auckland and Christchurch at the invitation of the Royal Society of New Zealand.

Holt was appointed delegate to represent the National Research Council by Chairman Detlev W. Bronk. He also carries a commission from the Washington Academy of Sciences, by designation of President F. D. Rossini. When Hugh Bennett, chief of the Service, found it impossible to attend, he asked Holt to take his place. There he will participate in a symposium on land classification and utilization.

WHERE IS YOUR SPADE?

BY J. B. DOUTHIT

IN MY REMARKS today won't you please think with me about:

The gardener who wanted to take his spade to heaven with him when he died.

The farmer who blindly tries to obtain a decent living from a heritage of misused and abused land.

The teacher who would give more to the child than information canned, stereotyped, and long lost from nature.

The child who brings the first flowers of spring to his teacher; and in turn is the recipient of things unreal, but who longs to know how the flowers grow.

The rural minister wise in theology and ethics but very ignorant of the reasons why his flock is slowly scattering under the impact of short crops and the urge for the better things of life.

The district supervisor, perhaps willing, but lacking in vision and activity.

What do we see when we plan a farm, when we build a terrace, or lay out a drainage ditch? It that the end?

To be sure, we see the gullied hills, the soggy flats, the decaying buildings, the unproductive land. Yes, and also, abandoned homes, schools, churches, and even communities. Very often these depress us, blind us, dim our vision. Look at them, yes! But also look on down the road.

We were born with an inherent love of nature. There is also in each of us a desire to serve others. Regard for material things and selfish urges may have nearly rubbed out these traits. But do they not occasionally flit across our minds?

To a few men—and women, more frequently—this urge to serve predominates. These people are the ones that men rise up and called blessed. To them eternity represents a continuation of the good things of this world. They are our ideals, or heroes.

Real satisfaction comes from a job well done. Success is rarely achieved with one master stroke. Here a little, there a little, eventually brings it

to us. If we would succeed at our job we must realize this. Great men are not made accidentally. Their parents, their school, the church, their neighbors, all contributed to their lives.

A barren field is brought back into profitable use. A man is given new hope. A community is started on the way to better life. If we can have just a small but successful part in these achievements, we shall surely want to ask Saint Peter to let us bring our spade with us into the "great beyond." Let us hope—yes and pray—that he will not say to us, "Why do the hills and fields of South Carolina hunger and thirst? Why do they lie there naked and eroded? Why do the people go undernourished and complain?"

Life is full of interesting things; and, yes, many problems are there, too. Some people solve them and enjoy their days to the fullest. Others use up our resources and wonder why they were born. The little child brings the first flower of spring to his teacher. In return she reads to him from books filled with abstract facts, dry as one's tongue when he makes his first speech. The child longs to know why those flowers bloomed first, why their stems are so short, why they always grow on the sunny side of the road. Or perhaps he wonders why his calf did not grow so fast as the one belonging to his neighbor. Why doesn't his teacher tell him? We love the things we know the best. We do not mistreat the things we love.

Perhaps if we talked with the teacher and showed her some of the basic things of nature, our stock in trade, we would find that she too is longing to get away from the abstract. Concrete evidence, living illustrations, observations from nature will open many idle brain cells and probably stop so many from being closed at the age when the owner is just beginning to be capable of really learning.

We often ask where a person is from. We really want to know what his early environment was. Do we ever stop to think that we are making our own environment? Tomorrow's citizens grow up in the surroundings that we make for them. What will they think of their community if we neglect the things with which they are most familiar and glorify the bright lights of the city?

NOTE.—Mr. Douthit is president of the South Carolina Association of Soil Conservation District Supervisors. This is an address he made before State conferences of Soil Conservation Service technicians, Clemson College, S. C., August 4, 1948.

What is there to revere about a run-down farm, a church building that sways with the breezes and haunts you with its lonesomeness of neglect?

The country church is the last remaining hope of keeping a community tie in many areas. The school has already gone to town. The country doctor and the most ambitious citizens left hurriedly years ago. All too often the preacher lives in town and knows little about the real problems of his country church or rural community. He is long on saving souls and theology, but short on the knowledge of saving either our land or our bodies. Do not censure them too hastily. That has been their training. Most often they eagerly grasp the things we can tell and show them. They can become our most able allies in showing the way to the things that make better farms and farmers, better homes and churches, better social and moral surroundings.

Yes, we make our environment whether we work at it or not. Shall future ages unveil monuments of virile farm communities; or shall they point sadly and despairingly to areas of barren land, abandoned homes, schools, and churches and hurry away to the bright lights of cities, there to take their vitamins and sleeping pills, follow demagogues and dictators, and eventually destroy the way of life that we have known and loved? The soil conservation district properly developed with your help can provide many aids to better living.

Our job is planning farms, running terrace lines, surveying drainage ditches, saving land, and building land. We must keep at it. Doing all we can, making progress every day. Achieving, but ever aspiring to do more and better at our appointed task.

Look squarely at our mistreated and misused land, but do not let the sordidness of these material things dim our eyes, blind or depress us. On down the road there is a boy, a girl, a young married couple. They may not even see us, but they are beckoning to us just the same. That terraced land, that restored hillside, that once soggy area now drained, will nourish and support them. They and their children's children will know a better life. The same transit that leads our vision unerringly to the target also leads on into time. The target must be seen if the contour line is correct; but it is what we see on beyond that makes our job worth while.

The artists paint their pictures and plan their instruments. But there are others just as truly artists as they. Any job well done vibrates the achievements of the doer, if he has done his best, just as truly as the greatest symphony. Art is the process of doing something well.

Great pictures have been and are yet to be put on canvas. Their contribution to civilization is worthy of much praise. These, as well as the artist who paints them, will be second to the picture and the artist who grooms and restores our land.

His picture will be a landscape. On it will be clear streams, productive land, comfortable homes, Where shall we leave our spade?

A NATIONAL LAND POLICY

ADOPTED BY THE SOIL CONSERVATION SOCIETY OF AMERICA, AT ITS ANNUAL MEETING IN DECEMBER 1948

The conservation and wise utilization of natural resources is fundamental to the economic and social welfare of all people.

Land, including soil, water, and the dependent living resources (cultivated crops, forests, wildlife, range lands, etc.), is recognized as basic wealth and it must be treated in such a way that it will be made secure for permanent high productivity.

It is essential, therefore, that a National Land Policy be developed and supported by the American people, and the Soil Conservation Society of America recommends that such a policy be declared as:

ALL LANDS SHOULD BE USED IN A MANNER WHICH WILL INSURE ITS CONTINUED AND PERMANENT MAXIMUM PRODUCTIVITY AND VALUES.

To adopt and effect such a policy, the following requirements must be recognized nationally:

The conservation of soil, water, and interdependent renewable resources involves scientific study and guidance, necessitating the bringing together as a single function many facets of a vast number of scientific fields; therefore, the science of soil and water conservation is intricate and complex.

An inventory of all physical land resources and their condition is of primary importance to serve as the proper guide to the utilization and treatment of these resources.

Specifically, the widespread adoption of a sound land policy should comprehend the need for conservation, development, and utilization of land and water resources for: (1) sustained and improved agricultural production, (2) forest protection, regrowth, and sustained yield, (3) prevention of erosion and flood damages to safeguard land from overflow and siltation, (4) protection of community and industrial water supplies, (5) maintenance of underground water sources, (6) development and installation of irrigation and drainage as needed to extend appropriate land use and conservation, (7) protection and maintenance of fish and wildlife in accordance with proper land use, (8) development and utilization of areas most appropriately suited for needed recreational purposes, and (9) protection, and, in certain cases revegetation of areas suited to range utilization.

The ultimate goal in land use is a complete soil and water conservation program on every farm, ranch, forest, and watershed throughout the country.

To functionalize the above land policy and the specific principles involved, the Soil Conservation Society of America recognizes that:

The conservation of soil and water by efforts of the individual landowners and operators is the most important contribution that can be made to the carrying out of this land policy. Locally and democratically organized groups of landowners and users are the best known vehicles for carrying out soil and water conservation programs designed to improve and perpetuate the productivity of our basic natural wealth—the land.

Private ownership of land is, for the most part, the most suitable system under which a National Land Policy can be effective. It is recognized, however, that good management, public interest and welfare necessitate public ownership and administration of certain land areas.

The technical, educational, financial and other services necessary to the adoption of a fully coordinated land use program should be thoroughly integrated and cooperatively performed, to carry out this land policy and all its principles.

Private, corporate, and allied groups have a major responsibility in obtaining adoption of this land policy and in the conservation of soil and water.

A workable method of carrying out coordinated programs of land use, soil and water conservation requires the joint and cooperative efforts of the Federal, State, and local governments which are, or may become, engaged in these endeavors. It is also necessary that the administrative forces charged with such activities be given explicit responsibilities for contributions to such coordinated programs.

In a great measure, our natural economy, our democratic process and our national security are dependent on the future conservation and use of our basic natural resources. These proposals,

therefore, are made in the interest of the public health, safety, and general welfare of all the American people.

BAYOU STATE LEADS.—January figures show Mississippi topping all States in paid subscriptions to Soil Conservation Magazine with 2,950. District supervisors attest the magazine's vital part in getting conservation on the land.

REVIEWS

PLOWSHARES INTO SWORDS. By Arthur P. Chew. Harper & Brothers. New York. 1948. 277 pp. \$3.

In this book the author develops an economic theory as the cause of wars. The basic struggle between industry and agriculture is at the root of most of the world's armed conflicts. This struggle takes place between nations and within individual nations. Chew points out that there must be a balance between factory output and agricultural output. Factories must have agriculture from which to draw raw materials and food supplies, and as a market for finished products. Agriculture depends on industry for its operational machinery and for markets. When these two are in balance, particularly between nations, there is little cause for armed conflict. Chew points out, however, that industrial nations, which are normally in a much better position than agricultural nations to wage aggressive war, must have sufficient agricultural resources for their needs. If they do not have them, two choices are open: (1) They may obtain the needed resources by force of arms, or (2) they may develop trade with agricultural nations.

Chew points out that the superficial explanation of some wars is presented to the people as ideological. This was shown clearly in the last World War when the differences in the ideologies of fascism, communism, nazism, and democracies were emphasized. To increase the interest in a war, leaders often resort to personification. Thus, we saw Hitler, Mussolini, and Hirohito built up on one side, and various more admirable leaders on the other side. The appeal here was for laymen unfamiliar with the basic issue of industry versus agriculture. Chew points out that the balance between industry and agriculture must be achieved throughout the world or war will surely recur. His solution is where he has difficulty. He does point out clearly, however, that there must be more freedom of world trade.

Imports, exports, and price adjustments get some attention. The author's thought concerning two prices for products, one local and one export, is not new, but he manages to marshal a great deal of logic for this system. Surplus goods must be placed on the world market at a price that market can afford. I particularly liked the chapter on conservation and trade practices.

The book has many stimulating ideas, and even though

It is hard to read in spots and difficult to understand, particularly if you are not an economist, it is well worth one's time and effort. Chapter 4, where the early philosophies of Veblen are compared with his later ones, seems to me a bit beside the point. Not knowing who Veblen was in the first place, I find it confusing and of small interest.

I can recommend "Plowshares into Swords" to anyone interested in agriculture, and particularly to those who are concerned with agriculture's part in maintaining world peace.

—GROVER F. BROWN.

FOREIGN NOTES

Mexico.—The First National Soil Conservation Conference in Mexico was held on November 17, 18, and 19, 1948 at Celaya, State of Guanajuato. Celaya is in a good agricultural area on the Central Mexican Plateau and is about 125 miles northwest of Mexico City. There was a very good attendance of technicians, administrators, and farmers from all Central Mexico. The conference was carried on under a committee consisting of Nazario S. Ortiz Garza, Minister of Agriculture, Luis Diaz Sufante, Governor of the State and Lorenzo R. Patino, Chief of the National Department of Soil and Water Conservation. Resolutions adopted were to the effect:

That the government should assist farmers in acquiring machinery, fertilizer, and seeds.

That there should be an intensive reforestation campaign in Guanajuato.

That there should be a national campaign for soil conservation.

That local committees for conservation of soil and water be set up.

That soil conservation districts be established.

That an experiment station for soil analysis be established in the Bajío.

That a fertilizer industry be established in the State.

That there be experiments with more profitable crops.

That prices of electric power be reduced for pumping irrigation water.

That courses on conservation be taught in public schools.

That sound trucks be used to teach soil conservation.

That steps be taken to obtain scholarships in soil conservation abroad.

That the Federal Government continue its policy of guaranteeing prices for agricultural products.

Brazil.—Plans are being made for a soil conservation congress to be held in the State of Sao Paulo some time late this February.

Africa.—The Inter-African Soils Conference was held at Goma, Belgian Congo, last November 7 through 16. It was organized by the Government of the Belgian Congo, with representatives present from many British, French, Belgian, and Portuguese colonies of Africa.

Discussions, with recommendations, of means to promote soil and water conservation occupied a prominent place. Among the resolutions:

Permanent regional committees for soil conservation and utilization should be organized. These committees will be made up of the technical representatives of each of the territories included within its sphere of action, which will meet at least once per year. Their principal role will be to determine the most favorable regional conditions for the achievement of their objectives and to propose a common plan of action.

It is essential to foresee, in the not far future, the possibility of the enactment of legislation for the purpose of carrying out soil conservation. These measures would be applicable to lands cultivated by non-natives as well as to those which are individually or collectively the property of natives.

NORTHEAST



POND FOR ZION.—When farm-land owners around Zion, Md., wanted a community pond, SCS technicians designed one for a site in a swampy area from which J. C. Gambrell had very little pasture use. It is oval, a half acre in area, 3 to 9 feet deep. It is filled from three springs on the nearby Eugene England farm. In case of fire, the roadway leading from the highway to the breast of the dam will enable firemen to drive in, lay a hose, and begin pumping.

The pond will be stocked with fish and also will be used for swimming. Gambrell plans to clean up a wooded tract just above the pond site and make a recreational park.

PASTURE PROGRESS.—Nasi Tamposi, dairy farmer of Nashua, N. H., has proved that pasture capable of carrying a cow per acre can be developed by clearing, seeding, and fertilizing woodland and brushland.

Tamposi had been barn-feeding the year round because little pasture was ever available. Three years later his Pine Hill Road farm was judged one of the top three in the Hillsboro County Green Pastures contest.

In the summer of '46, Tamposi asked the Hillsboro County Soil Conservation Sub-District for a conservation farm plan. His principal aim was to develop good pasture. Eleven acres of woodland and brushland were cleared, bog-harrowed, and seeded with rye, and manure supplemented by superphosphate was applied. Next spring the rye was plowed under and a pasture mixture of Ladino, red and alsike clovers, and timothy and redbud was planted. This received manure and an application of a complete fertilizer. Oats were sown and cut for hay after serving as a nurse crop.

Since then Tamposi has cleared five more acres of woodland and brushland which he is converting to pasture and has purchased a third tract which he proposes to handle similarly. He has built many rods of permanent fence to control rotation grazing. He clips all pastures and spreads the droppings. To supply more water for his livestock, Tamposi is building a farm pond that can be reached from any pasture.

SCIENCE CONCURS WITH EXPERIENCE.—Contour farming on hill farms in central New York puts money into farmers' pockets. Stanley Greene, district conservationist, reports on 1948 tests made at the Marcellus station in cooperation with the Cornell agricultural experiment station. He notes that the same crops were planted on identical soil types with the same topography, at the same time this year, one lot in three contoured plots and the other in three plots planted up and down hill. Oats planted on contour averaged 49 bushels per acre, compared with 45 bushels when planted on slope. Wheat yields on contour were 40 bushels per acre compared with 34 per acre on slope.

These tests have been made five successive years. In previous years, with other crops, the results were: 56

bushels of mature shell corn per acre on contour, and 32 bushels on slope; potatoes, 361 bushels per acre on contour and 304 bushels per acre on slope.

Yields tests were made at three points on each plot—top, middle, and bottom. Yields at the bottom were higher than at top or middle. Plots planted up and down hill showed the greatest yield differences between top and bottom, indicating that more soil and water had come down hill when plantings were on the slope.

DOLLARS COME BACK.—Forty York County, Pa., farmers spent \$10,000—\$250 each—applying conservation practices last year. This money is expected to be returned through additional income from increased yields. Increasing use of heavy equipment is rapidly bringing conservation farming methods within the financial reach of all York County farmers, says Blish.

SOAKED LAND RESCUED.—For years, Herbert H. Crumb had lost the use of 10 acres of his 130-acre dairy farm at Oxford, N. Y., because water settled there. He needed the land to produce feed for his 75-cow herd. When he took his problem to the Chenango County Soil Conservation District at Norwich, Laverne M. Stark, district conservationist, and Francis J. Wolf, another SCS technician, recommended a drainage ditch. Crumb, former Endicott, N. Y., superintendent of schools, approved and put the job under way with the use of contractor's equipment. The structure is 1,400 feet long and about 12 feet deep, cutting across the entire lower field and draining into the Chenango River. Crumb now has full use of those 10 acres.

Other Chenango County farmers are benefitting from like projects. Frank Zuber has just reclaimed 20 acres of good cropland by constructing a 1,000-foot ditch. It completely takes care of the water that had been washing down the hillside and destroying crops on 20 acres of flat land. John Proshine has just completed a 2,900-foot ditch which drains 30 acres that had been too wet to grow anything. He'll use it as a grazing area for his dairy herd.

CLASSMATES HELPED.—Douglas Drummond, vo-ag student at Central High School, Hopewell Township, Mercer County, N. J., was troubled over two gullies that made a part of his father's farm unworkable. He had the idea that soil and water conservation practices highlighted in his class work could be used to end the waste in his dad's land. Fellow students volunteered to help. Sven A. Gilberg, vo-ag teacher, and G. Sterling Otis, work unit conservationist, offered to supervise the job. With their guidance, about 20 boys built diversion terraces and reclaimed the area for crops.

SMITH SYSTEM SUCCEEDS.—When good soil conservation practices, including rotation and fertilizing programs, are followed, dairy farming can succeed on light sandy soil, Robert L. Smith and his son Leon, dairy farmers at Milford, N. H., have learned. They are in the Hillsboro Soil Conservation Sub-District.

On a farm made up entirely of Merrimack fine sandy loam they are raising feed for a 15-cow herd. Ease with which it can be tilled more than offsets the extra cost of operations needed to keep it at peak production.

They started with a complete conservation farm plan. It listed all needed rotations, mixtures, and fertilizers. Rotation starts with 1 or 2 years of corn followed each year by a cover crop which is plowed under in the spring. This is followed by 3 years of hay before the acreage is returned to cropland.

The fertilization program consists of a liberal use of cow manure reinforced with superphosphate at seeding and for annual top dressing. Hay pasture land receives an additional top dressing of commercial fertilizer, one-half ton per acre in the spring, and one-half ton in the

fall. In fertilizer the 5-10-10 formula gives the Smiths best results for corn and hay production.

By using these practices they are cutting at least 4 tons of good mixed alfalfa hay per acre annually and their corn land is producing up to 15 tons of silage per acre. In rotational grazing, some lands furnish both pasturage and hay.

In the past 4 years the Smiths have cleared 8 acres of flat and light land that had been covered with pine. In clearing 2 acres per year they salvage the wood and lumber, bog-harrow or plow the area, and seed it to a cover of winter rye (100 pounds per acre). This is plowed under in the spring and followed by a green manure crop which is plowed under in late summer. This is followed by another crop of winter rye, plowed under the next spring. The tract is then seeded with a mixture of alsike clover, timothy, or redtop and alfalfa.

UPPER MISSISSIPPI



HIRED MAN SAYS GOOD-BYE.—When Herman Meisner took over the 160-acre J. W. Black farm near Verna, Ill., in 1942, a full-time hired man was needed to help operate the farm and an adjoining 80 acres. At that time there were about 210 acres in row crops.

Since then Meisner and the owner, with the help of SCS technicians assisting the Marshall-Putnam Soil Conservation District, have developed a complete farm conservation plan for the 160. Included are a 5-year rotation of 2 years of corn, a year of oats, and 2 years of alfalfa and brome grass; contour field divisions, and contour farming. Meisner is now changing the rotation on the other 90 to include more legumes.

Now he farms with only a small amount of seasonal labor. Meisner's experience is typical of many mid-western farmers who have found that conservation farming enables them to cut down on labor.

HELPLESSNESS GETS TO BE HABIT.—Hillsboro, Ill., had need of a new athletic field and gridiron but, as is so often true in such community efforts, available funds were somewhat limited. The most pressing need was for a competent engineer to lay out the field.

Martin T. Ekovich was an engineer with the Soil Conservation Service before becoming a district conservationist about 6 years ago. Hearing of the situation, Ekovich came forward and volunteered. Working in his spare moments, evenings and Saturdays, he did the engineering which transformed a rough, timbered area into a first-class athletic field.

When all engineering and grading had been established, Ekovich helped his Hillsboro neighbors develop a fine sod of alta fescue. His instructions on this included good soil treatment, heavy seeding, light straw mulch, and watering. The results were excellent.

When the new athletic field and gridiron were dedicated, Ekovich was surprised to hear his name called from the speaker's stand. His Hillsboro neighbors presented him with a fine wrist watch in recognition of his contribution to community progress.

—W. S. SPEER.



SOIL HAS DAY IN COURT.—Last fall, in a lawsuit at Carroll, Iowa, a landowner sued a tenant for plowing up hayland and planting it to corn in defiance of a lease. Permanent damage to the land was established during the suit, because of erosion and failure to follow the established crop rotation. Damages totaling \$500 were allowed by the jury. E. A. Raun, the attorney who prosecuted the case, is himself a farmer cooperator with the Crawford County Soil Conservation District.

HOOSIERS ORGANIZE.—The Northeastern Indiana Association of Soil Conservation District Boards of Supervisors was organized in Kendallville in November. This is the first area association of Boards of Supervisors in Indiana.

The Association consists of the district supervisors from Noble, Allen, DeKalb, and Elkhart County districts.

Officers are Carlos Palmer, chairman, Noble district; Russell Housel, vice-chairman, DeKalb district; Glen Bowman, secretary, Elkhart district; and Carl Dicks, treasurer, Allen district.

The association plans to meet quarterly and will work on projects that are too big for a single district to handle, such as the staging of a farm face-lifting demonstration where a farm is rebuilt in 1 day, the holding of grassland field days, and other programs of area-wide interest.

The association hopes to enlist the cooperation of chamber of commerce, businessmen, farm organizations, implement dealers, seed and fertilizer companies, the Extension Service, and other groups and agencies in fostering various area programs.

—O. E. ACKERSON.

WESTERN GULF



GOOD SOIL GONE WRONG.—The FBI doesn't have a monopoly on sleuthing these days, at least in the Duck Creek Soil Conservation District, Garza County, Tex. A recent bit of detective work by A. P. Ottinger, work unit conservationist at Post, Tex., shows that dust storm soil has just as many fingerprints and identification marks as the Nation's No. 1 criminal.

Following a dust storm that came in from the High Plains, Ottinger took a sample of dirt from his desk and window sill. The brown color of the soil showed that it did not originate from the rolling Red Plains but came from the dark, hardland High Plains west of

Post. Furthermore, Ottinger found that High Plains farmers lost a greater percentage of organic matter and mineral elements than they did other soil particles.

An analysis made in the regional soil-plant-water laboratory at Fort Worth showed that the samples contained 74 percent more organic matter than the average hardland High Plains topsoil. (Organic matter not only adds plant food to the soil, but governs the intake of water and air and resistance against wind erosion.)

Likewise, an analysis of the mineral content of the blown soil showed it to have 33 percent more nitrogen, twice as much phosphorus, 150 percent more potassium, and three times as much calcium as are found in the average High Plains topsoil.

So when dust storm soil sifts through a window, eye it seriously. It's made up of those things that are needed for food production. They are no good unless they are kept on the farm.

TEXAS TRANSFORMATION.—The Ned Shurette farm—fairly typical of central Texas—underwent a dawn-to-dusk transformation last November. Prime mover in organizing the McLennan County spectacle, which attracted an audience estimated at 20,000 to 30,000, was the Waco Chamber of Commerce, working in cooperation with various agricultural agencies.

Visitors from throughout Texas and from several surrounding States were highly impressed with the miracle wrought and with the hundreds of men and the nearly 100 machines responsible for the achievement.

Conservative estimates put at more than \$10,000 the value added to the farm in the 1 day. The project was so extensive that it was impossible to make accurate records of service, materials, seed, fertilizer, shrubbery, machinery, and other donated supplies.

Terraces were installed, fields cultivated, cover crops planted, brush cleared, pastures seeded, shrubbery and orchard planted, the farm pond enlarged, a new farm road constructed, poultry house and brooder house constructed and painted, waterways built and sodded, and other improvements made.

Press, radio, magazines, newsreels, and a television station recorded the activities.

As a finishing touch, the Shurette's home was remodeled. Included were new bathroom with complete new fixtures, an electric pump to bring water to the kitchen and bathroom, and insulation for the entire house.

It was a big day for 31-year-old Ned Shurette, his wife Juanita, their two children, Paul, 11, and Cheryl, 4, and Ned's mother, Mrs. C. P. Shurette.

Ned's farm was chosen because just about every known type of soil conservation practice could be installed on the land which, last year as a tenant farmer, Ned began buying under the tenant purchase plan of the Farm Home Administration.

Ned has promised to maintain the improvements. "And that's the real 'payoff' for the operation," soil conservators say. "It is our hope that the farm will be studied in years to come when comparisons can be made of the increased productivity made possible by good soil conservation practices."

—PAUL D. MARABLE, Jr.

PACIFIC

WATCH GODECKE GO!—Edward Godecke of Gardnerville, Nev., a supervisor of the Carson Valley Soil Conservation District, wanted to reclaim 12 acres of waste land. In Nevada irrigation is necessary, and land leveling is the first step.

SCS engineers surveyed the field and figured the yardage to be moved. The cost would be high. But the field is at the entrance to his ranch and Godecke figured the improvement in looks alone would be worth considerable. He went ahead with the job.

His first crop averaged 2,500 pounds of oats per acre, enough to pay a third of the cost of leveling. Furthermore, at the national average of 2½ acres per person, Godecke estimates that he can feed five more people.

This is but a part of what he has done toward conservation. Last fall he leveled another 17 acres, at much lower cost, and drained 23 acres of tule swampland preparatory to leveling. Technicians have now staked 22 acres of sagebrush land for leveling and 13 acres of an old alfalfa field for improved irrigation. Godecke is going to deepen and extend his drain to take in some additional acreage of tule swampland.

—H. B. SHAW.

SIGNS OF THE TIMES.—Night or day, motorists in eastern Idaho know when they enter the boundaries of the West Side Soil Conservation District. Large signs, with the name of the district in "scotchligh" which reflects car headlights at night, have been erected by the Board of Supervisors at strategic boundary points where four main highways enter the district.

The idea for the night-and-day signs, according to V. P. McConnell, soil conservationist working with the district, "came up one night at a recent supervisors meeting." Lowell C. Moore, secretary-treasurer of the board, suggested they talk over financing the signs with local merchants. He soon reported that one of the local fertilizer companies would pay for the construction of the signs provided other merchants would cover the cost of lettering and installation. E. C. Johnson, chairman of the board, said that was all taken care of; two local banks had agreed to advance \$35 each for the painting and lettering.

Not to be outdone, the supervisors decided to finish the job themselves. They furnished posts and bolts and took a day off to put them up along the highway.



NORTHERN GREAT PLAINS

CHECKS IN FOR WORK.—Restoration of a 35-acre field to production is one result of the major overhaul being given his irrigation system as part of his farm conservation plan, according to Joel Bingham, who operates an 856-acre ranch near Thermopolis, Wyo., and cooperates with the Hot Springs Soil Conservation District.

GULLIES GONE.—Smooth slopes instead of gullied ones, and a doubling of corn yields, have spurred E. H. Call to hustle along on his conservation program. Call farms 200 acres near Girard, Kans., and is a cooperator with the Crawford County Soil Conservation District.

BANKERS BACK "BONUS"—One hundred subscriptions to SOIL CONSERVATION Magazine have been ordered by the Kingsbury (S. Dak.) Soil Conservation District. Harold C. Fritz, chairman of the Board of Supervisors, writes as follows:

"We have just completed the first year of operation of our district and as a means of maintaining high interest, keeping our growing list of co-operators posted to date on the national soil conservation problem, and as a means of expressing our thanks to co-operators for their very good cooperation during the past year, we plan on sending them a year's subscription of SOIL CONSERVATION as a sort of bonus for their part in promoting soil conservation on the land.

"The cost of the 'bonus' is being carried by the bankers within the district, all of whom have contributed and all of whom are very interested in promoting soil conservation.

"Copies of SOIL CONSERVATION will also be furnished the high schools within the district as well as the bankers and a few other individuals."

One field in particular was badly cut up by gullies. Most of the gullies were small but some were getting too big to cross with farm machinery.

"This land was limed in 1945 and had received manure rather regularly," Call said, "but still the yield averaged only about 18 bushels per acre. Erosion took the fertilizer, along with the soil, so I didn't get much benefit from it. And crop washouts did quite a bit of damage."

The gullies were plowed in. The field is now terraced and contour farmed. Even in a wet year there is no erosion now and much of the moisture is conserved.

CHOSEN BY COWS THEMSELVES.—Of all the grasses seeded in a demonstration plot that he now owns, the cattle showed a preference for intermediate wheatgrass for spring grazing, according to Elmer Nelson, a cooperator with the New Helena Soil Conservation District. Elmer farms with his father, Chris, 11 miles east of Broken Bow, Nebr.

The grasses had been seeded by the district supervisors in 1944 to give farmers in that area a look-see at the newer grass developments. The demonstration plots are in a field where there is a good stand of native grasses. Besides intermediate, there are plots of bromegrass crested wheatgrass, western wheatgrass, and a number of warm-season or summer grasses.

"I put the livestock on that field early in the spring," Nelson says. "The cattle took the intermediate wheatgrass first and stayed on the plot as long as they could. After a couple of months, I took the stock out of this pasture, fenced the intermediate wheatgrass, and got a fair seed crop."

This seed was used to start the seeding program to retire land not suitable for cultivation, as part of his farm conservation plan. Intermediate wheatgrass is considered about the best erosion-control plant in that part of the State.

DECADE OF CONTOURS.—Dennis Danielson, near Alcester, S. Dak., farmed on the contour 20 years ago. That was when he lived near Fort Randall. He did it to make things easier for the horses. He didn't realize then that it also saved soil and moisture.

Now Danielson is contour farming again, this time near Alcester. It is part of a conservation plan developed in cooperation with the Sioux-Brule Soil Conservation District.

He also uses a rotation which includes sweetclover, and has made grassed waterways out of gullies. The gullies were first bladed into the desired shape and then seeded to bromegrass.

"My yields used to average about 30 bushels per acre for both oats and corn," says Danielson. "My oats yields now run around 50 bushels and corn 55 bushels."

Danielson likes to point to the brome grass in his fence rows. Seeding it was a weed-control measure.

"The brome grass sure has choked out the weeds in the fence rows," he explained, "and that saves me a lot of work. I used to have to spend a lot of time trying to control the weeds there."

Besides seeding it in waterways and fence rows, Danielson also has brome grass in a 26-acre pasture. There it is in with bluegrass. He pastures 50 head of cattle there during the grazing season.

The grazing land is divided into three pastures so that rotation grazing can be practiced. This system keeps stock off the grass during its recovery from grazing and has much to do with the heavy carrying capacity.

LAZY LAND BROUGHT TO LIFE.—Drainage has made 50 acres of former waste land usable, has brought an end to seepage of water into the farmhouse basement, and has transferred the troublesome water to a part of the farm where it is needed, it is reported by H. R. Costain, owner, and LeRoy Atz, operator, of a 480-acre farm south of Huron, S. Dak. The farm conservation plan is being developed in cooperation with the West Beadle Soil Conservation District.

SOUTHWEST



First experimental power auger cost about \$1,000. The Prowers District believes the cost can be lowered on future rigs.

DISTRICT BUILDS POWER AUGER.—Necessity was truly the mother of invention for the Prowers Soil Conservation District of southeastern Colorado.

One of its big problems is the high water table. The district's drainage program was being slowed down because it took so much time to make the necessary drainage investigations.

The supervisors decided that one way to speed things up would be to build a portable power soil auger. The supervisors, SCS technicians Dwight Waters and Orville Parsons, collaborated with a blacksmith in Lamar, and the power auger was built.

Materials were scarce, and many of the parts had to be fabricated in the blacksmith shop. They used auto and tractor parts and had difficulty getting a bit that would function properly.

Finally they produced an auger which can drill a 10-foot hole in 4 to 10 minutes, depending on the soil. The district operates the rig and farmers pay 25 to 50 cents per acre for the service, depending on the size of the area investigated.

The information obtained from borings, plus the soil conservation survey, affords technicians the data they need to plan an effective drainage system that will bring the land back into high production.

The district is still working to improve the auger—it has some shortcomings. But it saves a lot of time and back-breaking hand labor and is speeding up the program in the Prowers district.

—E. MILTON PAYNE.

LEARN ABOUT LAND.—Soil conservation in Millard and Beaver Counties, Utah, is "going to school" for all practical purposes.

For the last 5 years the Soil Conservation Service has cooperated with public schools in educational work to acquaint teachers and pupils with soil and water conservation practices. For 2 years teachers have taken annual trips to soil conservation districts as a part of the regular teachers' institute.

This year, along with regular aid to classes and teachers, the SCS compiled a list of the best available bulletins on soil and water conservation.

Each school, public library, veterans' group, and vocational department now is being provided with a complete set of selected publications.

WATER WORRIES RECEDE.—A problem which has confronted users of Mona, Utah, since the pioneers of 52 years ago first tried to bring water from the high Mt. Nebo slopes, now seems close to solution.

The East Juab Soil Conservation District, with SCS technical help, are working on a water project estimated to cost more than \$8,000.

Already, water users have constructed 550 linear feet of concrete canal which will bring water down the steep wall of Willow Creek Canyon at the rate of 5,000 gallons a minute. This is expected to eliminate an annual maintenance outlay of more than \$500. A diversion dam, sand traps, and flushing systems are being installed.

LAMB CROP IMPROVES.—Cornelio A. Cisneros of Cerro, N. Mex., attributed his 110-percent lamb crop this year to the soil and water conservation program he is carrying out.

Cisneros runs around 200 head of ewes on his 320-acre farm, of which 150 acres are in cultivation. The ewes are kept on the farm and fed well during the winter and grazed in the National Forest during the summer.

This year Cisneros had a 110-percent lamb crop which averaged 84 pounds and brought 24 cents a pound in Denver. One-fourth of the lambs averaged 96½ pounds and went directly to the packers. The wool clip averaged 8 pounds each.

In the past, Cisneros and his brother maintained 1,200 sheep and grazed them on the sagebrush range during the winter instead of feeding them on the farm. While this practice was followed there was a 70-percent lamb

**FOR WHOM THE BELL TOLLS—1649
STYLE**

No man is an Island, entire of himself.

*Every man is a piece of the Continent, a part
of the Maine.*

*If a clod be washed away by the Sea, Europe
is the lesser, as well as if a promintory
were; as well as if a Mannor of thy friend's
or thine own were.*

*Any man's death diminishes me because I
am involved in Mankind.*

*And therefore: never send to know for whom
the bell tolls.*

It tolls for thee.

JOHN DOANE—1600.

crop, lambs were sold at 55 pounds, and the wool clip was only 6 pounds each.

Cisneros, cooperating with the Taos Soil Conservation District, figures that his farm flock of 200 ewes gives him better returns on capital and labor than did the 1,200 previously maintained. His explanation: During the winter the sheep are kept on the farm where crop residues, hay, and other feed keep them in good condition. Breeding ewes are kept in better condition and produce higher quality lambs. Better use in summer of National Forest range results when ewes and lambs go on the range in good condition. The summer forage brings rapid growth of the lambs.

Cisneros has 30 acres in crested wheatgrass for pasture in early spring and late fall. This grass, which begins growth early in the spring, supplies green forage during the lambing season. He plans to seed additional acreage of cultivated and sagebrush land to crested wheatgrass pastures next year. Other conservation practices being carried on by Cisneros include land leveling and irrigation system improvements for more effective use of water, increased production, labor savings, and prevention of erosion.

COTTON PRODUCTION UP.—Increased cotton production from 5 acres that were leveled in 1947 has paid double for the cost of the work in a single year, according to Ernest P. Malone, Jr., farmer in the Cottonwood community northwest of Artesia, N. Mex.

Malone reports that he and his brother, Cooper, leveled the 5 acres in the spring of 1947, using his own tractor and a grader which he obtained through the Central Valley Soil Conservation District. SCS engineers helped lay out the field in benches 56 feet wide. Total cost was \$30 per acre.

This year Malone harvested seven bales of cotton from the field. He says that the yield would not have been more than two bales if the field had not been leveled. He figures the increase equal to more than twice the cost of leveling.

Land lying southwest of this field was more level and Malone thought that it was being perfectly irrigated. However, this land produced less this year than that which was leveled. Malone now believes that this smaller yield resulted from water running off the slight slopes of the land which he considered level.

WATER-PROOFING DITCHES.—There is widespread interest in Pinal County, Ariz., in lining irrigation ditches with concrete to prevent loss of water.

Recent studies by SCS technicians on two Pinal County farms showed that 20 percent of the water was lost after it had run one-half mile in an open ditch. On a third farm, 18 percent of the water was lost after 1 mile.

Does it pay to line ditches? In answer, let us assume that an operator is farming 300 acres with 1 mile of ditch, using $3\frac{1}{2}$ acre-feet per acre per year, or 1,050 acre-feet. A 20-percent loss amounts to 210 acre-feet. If it costs \$4 per acre-foot to pump the water, there is a direct annual loss of \$840. This loss over a period of years would go far toward paying the cost of ditch lining, there would be more water available for crops, and there would be other savings.

RETURN OF THE NATIVE.—Sand lovegrass, hardy western native which disappeared from northeastern Colorado years ago, is being brought back in an effort to reclaim thousands of acres of barren, sandy land. This long-stemmed, high-protein grass thrives in soil where other grasses cannot exist.

Willard Hart, cooperater with the South Platte and Haxtun Soil Conservation Districts, planted 15 acres of sand lovegrass in May 1947. In the fall of 1948 he cut 3,000 bundles for threshing to recover seed. Each bundle weighed about 7 pounds.

The grass, he says, serves a twofold purpose. It is good feed and it helps nail down the topsoil. It yields hay in volume up to three-quarters of that of alfalfa, but seed is expensive, selling at \$4 to \$6 a pound.

About a pound of seed is required for 1 acre, and yields average upward from one-half ton of hay for each acre planted.

TWO FARMS WHERE NONE GREW BEFORE.—Approximately 350 acres, or the equivalent of two average farms, have been brought into profitable production under soil conservation practices since the La Plata Soil Conservation District in southwest Colorado was organized in July 1947.

This newly cleared acreage has been seeded to wheat, alfalfa, beans, and pasture, and the first crops usually have paid the cost of bringing the land into production. Only suitable land is being put into cultivation and crops from these acres are adding around \$20,000 annually to the income of district cooperators.

Chester Beaston, first cooperater of the district, has cleared 12 acres of timber land and expects the initial crop to pay the cost. Beaston also has united and leveled two fields on his 320-acre farm at a cost of \$10 to \$12 an acre and is confident that the work will pay for itself with the next crop.

**FOR WHOM THE BELL TOLLS—1949
STYLE**

No farm is an Island entire of itself.

*Every farm is a piece of the Valley, a part
of the Community.*

*If an acre be eroded away by rains or winds,
the Valley is the lesser, as well as if a farm
or ranch of thy friend's or of thine own
were.*

*The death of any acre of land diminishes me
because I am involved in Agriculture.*

*And therefore: never send to know for whom
the bell tolls.*

It tolls for thee.

BILL DONNAN—1949.

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